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ABSTRACT

One of three projects included examined the effects of combined speech and fingerspelling on the development of language and communication using a survey of over 200 subjects from six residential schools. The results showed that fingerspelling in combination with speech leads to improved achievement, shows no detrimental effects on the acquisition of oral skills, is best with young children, and is useful enough to indicate that those working with the deaf should be familiar with manual communication. A second study was conducted to determine the success of the deaf attending regular institutions of higher education. Results indicated that those attending regular institutions came from socioeconomic backgrounds similar to the general college population, their school background was generally in oral residential schools, and successful completion depended simply on academic ability. An ongoing project to investigate occupational status is mentioned. Results of a survey concerning supervision and supervisors in programs for the deaf indicated the following needs: increased supervision, improved quality of supervision, setting professional standards for supervisors, and discussion and resolution of problems in supervision by professional persons in education. (JM)

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RESEARCH ON SOME BEHAVIORAL ASPECTS OF DEAFNESS

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Introduction

The Institute for Research on Exceptional Children of the University of Illinois was awarded a grant by the Rehabilitation Services Administration (then the Vocational Rehabilitation Administration) beginning July 1, 1963, for the support of a program of research on some behavioral aspects of deafness. The original proposal outlined three broad areas of research and some specific projects which would be conducted within those areas. Area I was concerned with the development of language and communication skills of deaf persons. Specific projects in this area were concerned with the influence of fingerspelling on the development of language and communication. Area II was concerned with the utilization of existing educational, vocational, and rehabilitation facilities by deaf persons. The project reported in this area involved the attendance of deaf persons in institutions of higher education not specifically designated for deaf people. Area III was concerned with investigation of factors influencing the occupational status of deaf persons. The project being conducted in this area is expected to be completed in August, 1969. Some preliminary information on it is included in this report. Also included is a survey of supervision and supervisors of teachers of the deaf. While this was not included in the original proposal, it is reported here because of the significanee of this aspect of education of the deaf and because some project personnel were involved in conducting it.

Project I. The Influence of Fingerspelling on the Development of Language, Communication, and Educational Achievement in Deaf Children

The purpose of this investigation was to examine the effects of the use of combined speech and fingerspelling (the Rochester Method) on the development of language, communication, and educational achievement in profoundly and prelingually deaf students. The procedures for examination of the problem involved two studies: (1) a survey study of six residential schools for deaf children and youth; (2) an experimental study in two residential schools.

Summary of the Survey Study

The survey study involved more than 200 subjects from six residential schools for deaf children and youth, three of which were designated as experimental schools and three as comparison schools. The experimental schools used a combination of speech and fingerspelling within the classroom with the subjects selected for the project. In the comparison schools, the various combinations of oral and manual communication methods known as the Combined System were used. This is the system typically used in most residential schools for deaf children. The project was termed a survey project because no intervention was made in the programs of the schools. The investigator simply administered a battery of tests to the subjects in the schools each year for five years and made comparisons between the performances of the subjects in the experimental and comparison schools. Comparisons were made between (1) the performances of the subjects in the three experimental schools combined and the performances of the subjects in the three comparison schools combined, and (2) the performances of the subjects in each of the three experimental schools and the

performances of the subjects in the matched comparison school of each pair.

The Combined Schools

Matching of subjects between the experimental and comparison schools was successfully accomplished. A battery of experimental tests was then administered to all subjects in the initial year of the project and in each of the succeeding four years. The following results were obtained.

1. Statistically significant differences emerged in favor of the experimental group in each year of the project on the ability to read fingerspelling.

2. There was consistent and statistically significant differences in favor of the experimental group on most of the measures of educational achievement, including reading ability, in most of the years of the project.

3. There were statistically significant differences in favor of the experimental group in most of the years of the project on a number of measures of written language ability.

4. No consistent differences of a statistically significant level were found between the experimental and comparison groups on the measures of speechreading ability.

5. No consistent differences of a statistically significant level were found between the two groups on the measure of speech intelligibility.

In general, the experimental group was significantly superior to the comparison group on measures involving meaningful language. There were no significant differences between the two groups on the various measures of oral skills - speechreading ability and speech intelligibility.

The Paired Schools

The design of the survey study involved three sets of paired schools with one member of each pair being an experimental school in which the subjects were exposed systematically to the use of fingerspelling and speech in the classroom, and the other a comparison school in which oral and some combinations of manual methods were used. The pairs were designated as Group 1 Schools, Group 2 Schools, and Group 3 Schools.

Group 1 Schools. In Group 1 Schools, the experimental member of the pair had an educational program which introduced the combined use of fingerspelling and speech as the classroom communication method with

all children when they reached the Intermediate Department which was usually at about the age of 12 or 13 years. Subjects meeting the criteria for the study were selected from those who began the use of that method in the year the study was initiated and they were matched with subjects in the comparison school. The experimental tests were administered each year throughout the four years of the study.

In this particular pair of schools, only a few significant differences emerged on the experimental variables during the course of the study. In general, it can be said that the two schools were equivalent, in fact almost identical, on all experimental variables except speechreading at the initiation of the study. During the next four years while fingerspelling was systematically used in the classroom in the experimental school, some differences did emerge in favor of this school and by the final year of testing a number of the differences approached statistical significance. Examination of the data showed that the two schools never differed significantly on the fingerspelling variable so that a true experimental situation did not exist. Several possible reasons could be advanced to explain the lack of difference between the two groups of subjects in their ability to read fingerspelling. Observation indicated that there likely was considerable use of fingerspelling in the classroom in the comparison school.

Group 2 Schools. In the second pair of schools, instruction in the experimental member involved the combined use of speech and fingerspelling for all children when they reached the level of the Intermediate Department. Subjects were selected from the entering class in the Intermediate Department at the initiation of the study and they were matched with subjects in the comparison school.

The performances of the subjects in the two schools were similar on most of the experimental variables in the initial year of testing. During the subsequent four years of testing, the subjects in the experimental school achieved increasingly superior scores for two years on most of the experimental variables with a decline in the last two years which was apparently due to unavoidable loss of subjects in both schools.

Group 3 Schools. Instruction through the combined use of fingerspelling and speech begins in the experimental school of this pair from the time the child enters school. Children meeting the criteria for the study were selected as subjects from the school provided they had reached the age of nine years at the initiation of the project. During the second year of the study, additional subjects were added who had reached the age of nine in order to increase the number of young children in the investigation. All subjects selected in the experimental school were matched with subjects in the comparison school. Three types of analysis were made of the data: (1) comparisons between the two schools for the total number of subjects; (2) comparisons of the older children within the total sample who had been in school prior to the time the Rochester

Method was initiated in the experimental school; and (3) comparisons of the younger subjects in the total sample who had begun school after the Rochester Method was initiated in the experimental school.

The results for the total number of subjects showed that the experimental subjects gradually increased their scores on various sub-tests of the Stanford Achievement Test to the point where they were significantly higher than the scores for the comparison subjects on a number of the sub-tests and on the Battery Median of the Test. No consistent differences were found between the two groups on the measures of written language ability. The subjects in the comparison school had consistently higher scores than the experimental subjects on speechreading and speech intelligibility, with the differences in speechreading being statistically significant in some instances.

The results for the older subjects were similar to the results for the total group. However, the differences between the two groups in favor of the experimental school were reduced in comparison to the results for the total number of subjects.

The results with the younger subjects in the Group 3 Schools indicated statistically significant and educationally substantial differences between the two groups in favor of the subjects in the experimental school. The differences were most apparent on the various sub-tests and combined scores of the Stanford Achievement Test. However, there also were a few differences on the measures of written language ability. No statistically significant differences emerged between the groups on the measures of speechreading ability and speech intelligibility.

Summary of the Experimental Study

The experimental study was considered to be the more important of the two studies although it was much smaller in scope than the survey project. Its importance was due to the fact that all essential elements were under the control of the investigator: the selection of subjects, the selection of teachers to use the Rochester Method, and structuring of the out-of-class environment. With these elements under control it was possible to make a comparison of the results obtained with young deaf children through the use of the Oral Method and the Rochester Method. The study also permitted examination of the effects of fingerspelling on very young deaf children since the subjects in the study ranged from three and a half to four and a half years of age at the time the study began.

The experimental study involved use of the Rochester Method with 16 selected deaf children in a residential school, use of the Oral Method with 16 matched deaf children in a comparable residential school, control of the classroom and out-of-class environments of both groups of children for a period of four years, and compairson of the two groups in the final year of the project on a number of measures of language and communication development to determine the comparative effects of the two methods.

The following results were obtained.

1. The experimental group had a significantly higher mean score than the comparison group on the test of ability to read fingerspelling.

2. The experimental group had significantly higher mean scores than the comparison group on five of seven measures of reading ability. The experimental group also had higher mean scores on the other two measures but the differences did not reach statistical significance.

3. The experimental group had significantly higher mean scores than the comparison group on three of five measures of written language ability. The comparison group was superior on one of the measures and there was no significant difference between the two groups on the remaining measure of written language ability.

4. The experimental group had a significantly higher mean score than the comparison group on one of two measures of speechreading ability. The experimental group also had a higher mean score on the second measure of speechreading ability but the difference did not reach statistical significance.

The data from the experimental study showed consistent and significant superiority of the experimental group on almost all of the measures used in the study. Not only did the experimental subjects exceed the comparison group on reading and written language ability, they also exhibited superiority in the measures of speechreading ability. It can be concluded that better results were achieved by the Rochester Method than by the Oral Method for the particular children and schools involved in the investigation.

Implications of the Studies

Even when the statement of a problem and the procedures used to examine it are generally accepted, differences can arise in the interpretation of the results obtained in an investigation. This likely will be true of the present studies. Therefore, it should be noted that the implications presented in t is section are those of the author alone and are based on evaluation of the present studies, other studies of the problem reported in the literature, and observation in the projects schools throughout the conduct of the investigations.

The results of the study would seem to indicate that the use of fingerspelling in combination with speech can lead to improvements in the achievement of deaf children on those variables in which meaningful language is involved. The results also indicate that oral skills, at the level which they now are achieved by deaf students in most schools, need not be harmed by the use of fingerspelling. The lack of consistent patterns in the oral ability of subjects in the survey study

indicate that the level of oral skills is dependent upon the quality of instruction in particular schools rather than upon the method of communication which is used. This interpretation is reinforced by the performance of the subjects in the experimental study where the students taught by the Rochester Method were superior in speechreading ability to the subjects taught by the Oral Method.

The findings of the survey study and the experimental study indicate that greater gains in achievement can be obtained by the use of fingerspelling with younger rather than with older children. This is the reverse of the process usually employed in most residential schools where manual communication is not introduced in the classroom until children have been exposed for several years to the Oral Method. The interpretation is reinforced by other information in the literature on this problem (Meadow, 1967).

While the use of fingerspelling in the present studies produced statistically significant gains for the experimental subjects on a number of variables, the differences between the experimental and compairson groups usually were not large in an absolute sense. In the survey study the superiority attained of the experimental groups on the Battery Median of the Stanford Achievement Test rarely exceeded one grade. Differences on reading and written language ability also were not large even when statistically significant. The same statements can be made about the findings of the studies by Quigley and Frisina (1961), Stuckless and Birch (1966), and Meadow (1967). Also, while the differences between the mean scores of the experimental and comparison groups in the present studies were often statistically significant, the size of the standard deviations indicate that there was considerable overlap between the distributions of the scores of the two groups. This means that some of the comparison subjects performed better than some of the experimental subjects and indicates a differential effect of the method of communication with particular subjects. This is a factor which requires further investigation.

The size of the absolute differences between the experimental and comparison groups must be evaluated in terms of the relatively low achievement of deaf students in general. An advance of one grade level in educational achievement or reading ability is educationally substantial for deaf students and represents what is usually achieved by two or three years of teaching in most schools with present methods of instruction. Such a difference is worthy of consideration. It would seem, then, that while the use of fingerspelling does not provide any panacea in the education of deaf children it can, in combination with good oral techniques, be a useful tool in helping develop language and communication.

On the basis of these interpretations the following implications can be drawn from the findings of the studies.

1. The use of fingerspelling in combination with speech as practiced in the Rochester Method can lead to improved achievement in deaf students, particularly on those variables where meaningful language is involved.

2. When good oral techniques are used in conjunction with fingerspelling, there need be no detrimental effects to the acquisition of oral skills.

3. Fingerspelling is likely to produce greater benefits when used with younger rather than with older children. It was used successfully in the experimental study with children as young as three and a half years of age.

4. Fingerspelling is a useful tool for instructing deaf children but is not a panacea.

5. The results produced by fingerspelling would seem to indicate that persons working directly with deaf children or adults should be knowledgeable in the use of manual communication.

Project II. Deaf Students in Colleges and Universities

The study was conducted to determine the extent to which deaf persons were successful in attending regular colleges and universities in the United States and the Characteristics which were associated with attendance in such institutions. The original plan was to locate three groups of deaf persons: (1) those who had successfully graduated with at least a bachelor's degree from regular institutions of higher education; (2) those who had attended such institutions but who terminated prior to acquiring the bachelor's degree; and (3) those who were in attendance at regular colleges and universities at the time of the study. During the initial stages of locating the target population of persons who met the criteria of deafness and attendance at a regular institution of higher learning, it became evident there were two other groups of persons who might provide data of value for the purposes of the study: (1) persons who had begun study in a regular college or university and later transferred to Gallaudet College; and (2) graduates of Gallaudet College who attended graduate school in other institutions. Since these persons met the criteria of deafness and attendance in regular colleges and universities, the decision was made to include them in the study.

By a variety of techniques, 992 persons were located who seemed to meet the study criteria. Questionnaires were sent to them and extensive follow-up efforts were made to ensure as high a rate of return as possible. More than 800 questionnaires were returned. These questionnaires were examined to determine if the respondents met the criteria of: (1) deafness, and (2) attendance at a regular institution of higher education. Only those questionnaires were accepted for analysis which indicated the respondents had attended, for at least one semester, an institution of higher education listed in the Education Directory of the United States Office of Education. A total of 653 respondents returned usable questionnaires which met this criterion and the criterion of hearing impairment.

Hearing impairment was determined in two ways: (1) by the self-reports of hearing ability on Question 15 of the questionnaire; and (2) by audiometric data which were obtained from schools for the deaf for 168 respondents who also answered Question 15. Question 15 reads as follows:

> Hearing ability without a hearing aid. (Check either "Yes" or "No" for each statement.)
>
> | Yes | No | Can you hear -- |
> |---|---|---|
> | ___ | ___ | Very loud noises? |
> | ___ | ___ | Some speech sounds if spoken very loud? |
> | ___ | ___ | Some speech sounds spoken normally loud? |
> | ___ | ___ | Some speech sounds spoken in a whisper? |
> | ___ | ___ | Can you understand some words spoken normally loud even if you are not looking at the person who is talking? |

A correlation coefficient of .53 was obtained between the audiometric data and responses to Question 15 for these 168 respondents. In view of the restricted range of the two variables, this degree of relationship was accepted as reasonable validation for the use of Question 15 data for those respondents for whom audiometric data could not be obtained.

Because of the differences among the five groups of respondents in terms of the length and type of experience in regular colleges and universities, it was decided to keep the groups separate in the presentation of the survey data rather than combine them into a single group. Within each group, the results were presented separately for those who were classified as deaf and those classified as hard of hearing for the purposes of the study. Persons who had hearing losses greater than 65 decibels, as verified by audiometric data, or a certain level of response on Question 15 were classified as deaf. Those with verified audiometric losses less than 65 decibels, or a certain level of response on Question 15 were classified as hard of hearing.

The results can best be summarized by presenting them for Group A and Group E together, Group B and Group D together, and Group C alone.

Group A and Group E. Group A consisted of 225 respondents, 184 classified as deaf and 40 as hard of hearing, who had been awarded at least bachelor's degrees from regular colleges and universities. Group E consisted of 98 graduates of Gallaudet College, 85 deaf and 13 hard of hearing, who attended graduate school in other institutions of higher education. Approximately half of these persons had acquired at least one graduate degree.

Respondents in both groups can be considered as highly successful in terms of their academic and professional accomplishments. A variety of data, including reported grades during the last year of attendance in a regular institution of higher education, indicated they were able to compete successfully in undergraduate and graduate schools. The great

majority of both groups were engaged in professional level occupations and were earning salaries at least comparable to those for professional workers in the general population. They appeared to be adjusting successfully in their marital and social lives.

There were some differences between the two groups which are of interest to the purposes of the study. First, Group A respondents came predominantly from families whose socio-economic status was comparable to that of the families of the general college-going population. Group E respondents, on the other hand, came mostly from families of considerably lower socio-economic status. Since the average age of the two groups differed by only about five years, the difference likely was not due to different periods of prosperity in the United States. Both groups generally achieved higher socio-economic status than they reported for their families. Having started from a lower base, however, the upward mobility of Group E was the more striking.

Second, the two groups differed considerably in their types of pre-college schooling. The majority of Group E reported attendance in combined residential schools for the deaf, while Group A respondents attended mostly in oral residential schools, day programs, or some combination of these. Since approximately equal percentages of Group A respondents reported attendance in day programs as in oral residential schools, the residential factor did not seem to be a determinant of their pursuing higher education in regular institutions. It is more likely that a determinant was the philosophy, which guides both oral residential schools and day programs, of preparing students for later education in regular high schools and colleges and of fostering as much interaction as possible with normal hearing persons during the schools years. The data indicated that hearing impaired students who obtain their pre-college education entirely within combined system residential schools will almost certainly seek higher education at Gallaudet College rather than at other institutions.

Third, the majority of respondents in Group E majored in Education in graduate school, while Group A respondents tended to major in a wide variety of subject areas with only a small percentage in Education. This was reflected in the occupational lives of the respondents. While the great majority of both groups were engaged in professional occupations, most of Group E respondents were in educational positions concerned with services to other deaf persons. In Group A, most of the respondents were engaged in professional occupations other than teaching. Both groups appeared to be successful occupationally in terms of job status, income and job satisfaction.

Finally, there was a greater tendency for respondents in Group E to prefer marriage partners who also were deaf. Their preference was confirmed by their actual marriages which were almost always with other deaf people. While Group A had a considerably lower percentage of marriages to other deaf persons, such marriages still were contracted by the majority of respondents.

Group B and Group D. Group B consisted of 131 respondents, 84 classified as deaf and 47 as hard of hearing, who had attended regular colleges and universities but terminated short of achieving bachelor's degree status. Group D consisted of 39 respondents, 24 classified as deaf and 15 as hard of hearing, who began study in regular institutions of higher education but transferred to Gallaudet College. Both groups were similar in that they terminated study in regular institutions before acquiring at least a bachelor's degree. They also were similar in type of pre-college schooling and socio-economic background of their families. Group B respondents had an average age of approximately 31 years and most were employed. The average age of Group D was approximately 23 and all were in attendance at Gallaudet College at the time the survey was conducted.

As compared with Group A, whose respondents also began study in regular colleges and universities but successfully completed at least a four-year program, Groups B and D earned lower grades during their last years in both high school and regular colleges. The grades for Group D in both instances were lower than for Group B which in turn were lower than for Group A. This factor of grade averages in both high school and college seems to be a major differentiating factor between those who successfully completed a regular college program and those who did not, either by terminating study or transferring to Gallaudet College.

Group C. Group C consisted of 161 respondents, 80 classified as deaf and 81 as hard of hearing, who were still in attendance in regular colleges and universities at the time of the study. Respondents in this group were similar to the other groups with beginning experience in regular colleges (Groups A, B, and D) in type of pre-college schooling and in the socio-economic backgrounds of their families. They differed in age, being the youngest group of respondents at an average age of 21 years.

This group seemed to show the effects of the emphasis in the past 20 years on amplification and home training from parents. They tended to make greater use of hearing aids, to have had more home training from parents, and to have received greater parental encouragement to attend college than was true for the other groups of respondents. The average grades for the group during the last year in high school were lower than for Group A, higher than for Group D, and roughly comparable to those for Group B. The same was true for their grades during the last year in regular college. Since this group was still in college at the time the survey was conducted, an intensive follow-up study is planned to determine who succeeded in college and who failed, and to determine other characteristics relevant to the purposes of the present study.

One matter of interest in conducting the study was the number of deaf individuals attending regular colleges and universities at any given time. Since the methods used to locate the target population probably did not succeed in locating all persons who met the criteria for the study, the numbers which can be given from this study of deaf persons in college are undoubtedly underestimates. They do furnish, however, some idea of the extent to which deaf persons are seeking higher education in regular institutions.

Two estimates can be given from the study data of how many deaf persons might be in regular institutions of higher education at any given time. One is the number of respondents in Group C which consisted of persons in regular colleges and universities at the time the survey was conducted. The total of 161 respondents in this group included 80 who were classified as deaf and 81 who were classified as hard of hearing by the methods described in the procedures of the study. Because of the methods used in locating the target population, which were directed toward locating deaf individuals the 81 hard of hearing respondents were likely persons whose hearing impairment presented them with at least moderate difficulty in regular schools. It is obvious they would represent only a very small fraction of the total population of hard of hearing persons in regular colleges and universities. One estimate which could be given then is between 80 and 161 persons. It should be emphasized again that the procedures used in the study very likely resulted in these figures being underestimates. However, there is no way of knowing how great the underestimation might be.

Another estimate can be obtained from the data in Table 35 which listed the percentages of respondents reporting earliest attendance at a school of higher education, grouped by four-year periods. In Groups A, B, C, and D (respondents whose first attendance was in a regular institution of higher education), 126 who were classified as deaf listed their earliest attendance as being during the period 1960-1965. In the same groups, 115 respondents classified as hard of hearing reported their earliest attendance as being during this period. While the figures obtained by this estimate and the previous one are likely underestimates of the true situation, they do indicate that considerable numbers of deaf students are seeking higher education in regular institutions.

There were two major characteristics which seemed to distinguish respondents who sought higher education in regular institutions, whether successfully or unsuccessfully. First they came from families with socioeconomic backgrounds similar to those of the families of the general college-going population in the United States. Second, their pre-college schooling usually was obtained in oral residential schools, day programs, or a combination of these. The philosophy of these programs in preparing hearing impaired students for later education in regular high schools and colleges, and of fostering interaction of deaf students with normal hearing persons, might be the strongest factor in influencing the student's eventual decision on the type of college to attend. The high school level might be particularly crucial in this respect. Data in the study indicate that when a student obtains his education through the high school level in combined system residential schools, he is not likely to attend a regular college or university. Since it is reasonable to assume, conservatively, that many students in such schools are as capable as those in day programs and oral residential programs, and as well prepared for college, the difference might lie in the goals and philosophies engendered in the students by the respective educational programs.

The factor which seemed to differentiate most between those respondents who successfully completed at least a four-year program in a regular institution of higher education and those who did not was simply academic accomplishment. This is shown by the higher average grades reported by

Group A for the last year in college as compared to those for Group B (terminating students) and Group D (transfer students). The college grades, and thus college success, were predictable from the reported high school grades which paralleled the college grades for the three groups. Judging by the high school grades reported by the transfer students (Group D), it would seem to have been inadvisable for many of them to have attempted higher education in a regular institution. It could also be reasoned, of course, that with appropriate special help they might have been more successful in regular colleges.

Implications

The study has shown that considerable numbers of deaf persons seek higher education in regular colleges and universities. It has also shown that many of these persons successfully graduate from such institutions and attain professional status in the occupational world commensurate with their educational attainments. The success of these individuals in institutions of higher education apparently is achieved with little or no special assistance. It would seem reasonable to assume that the provision of some special services, such as are available in many instances to students with other types of disabilities, would make it possible for greater numbers of deaf persons to achieve similar success in higher education. A number of recommendations for accomplishing this objective can be made from the study.

1. Special counseling should be provided early in the high school years for students who seem to have the academic ability and achievement for higher education. The student should be made familiar with the wide range of universities, colleges, junior colleges, and specialized institutes which are available. He could be given the background necessary for making the most appropriate choice in terms of his interests and abilities. Assistance could be provided to aid him in gaining admission to an appropriate institution.

2. Special counseling and special services should be made available to the student when he enters an institution of higher education. It would be desirable to have a single person, perhaps a rehabilitation counselor, responsible for securing the services for a student within a given institution. While this might not be practical on an institutional basis, it could be feasible on a state or regional basis. Such a plan presently is under development by Dr. George J. Goldin at Northeastern University in Boston, Massachusetts, with support from the United States Vocational Rehabilitation Administration. Respondents in the present study indicated a need for assistance in both academic and social life in such matters as admission procedures, orientation to the institution, special tutoring, speech and hearing services, manual interpreting, and career counseling and guidance.

3. Greater attention should be given to the educational needs of students with moderate hearing impairment of about 40-65 decibels. Data in the present study, and general knowledge, indicate that the needs of such students are not being met either in the elementary schools or in the

higher educational levels. A hearing loss of this degree should not in itself become a sufficient handicap to prevent a student from securing his education largely through the regular school system. The evidence indicates that such is the case, however, in many instances.

Provision of special services to increase the chances of success for more deaf students in regular institutions of higher education would undoubtedly be expensive, since they would require a very low ratio of clients per counselor. However, such services would be much less expensive than the provision of specialized facilities. In addition to the lower expense of such a program, it is obvious that the vast array of higher education programs and facilities available to the general population can never be duplicated by special facilities for a small population. Such special facilities are needed, but the deaf person will continue to be confronted with a restricted range of educational choices and opportunities until ways are found to make available to him the facilities and programs available to the general population.

Project III. Some Factors Influencing Occupational Status of Deaf Persons

The basic objective of the occupational survey project underway in this area is to look at deaf people in the world of work on a variety of behaviorable variables, including the important factors of communication and previous educational background, in order to determine how these are related to occupational status. From these data an understanding should develop of how deaf individuals function in job situations, the common problems they may have, and how these can be alleviated. Among the factors to be investigated are the following.

1. How deaf people communicate on the job and in off-job situations and the role this plays in vocational success.

2. The relationship of various educational backgrounds to vocational success.

3. The extent to which the deaf person objectively evaluates his assets, liabilities, and job situation.

4. The particular problems which the deaf individual faces in obtaining and retaining suitable employment.

5. The degree of social interaction of deaf people with hearing people both on and off the job and its relation to vocational status.

6. Factors that differentiate the vocationally successful and the vocationally unsuccessful deaf person.

The target population for the study consisted of all deaf persons who terminated study, because of graduation or other reasons, in all programs for the deaf in Illinois during the years 1957 to 1967. This

included subjects from state school, day school, and day class programs. All schools and classes in Illinois agreed to participate. The names of potential subjects were obtained from the Illinois School for the Deaf, the parochial schools for the deaf in Chicago, the public schools for the deaf in Chicago, and day class programs in the state which met the requirements of the study. A total of more than 900 names of potential subjects were received from these sources.

A questionnaire for the study was constructed in consultation with various people working with the deaf in Illinois, including persons serving the deaf in the Illinois Vocational Rehabilitation Agency. The instrument was pretested on a random sample of 30 of the potential subjects. Following pretesting, the questionnaire was revised to eliminate some items, modify others, and to incert additional questions to obtain further information.

It was possible to locate more than 700 of the 900 potential subjects whose names had been submitted by the educational sources already described. A copy of the questionnaire and a covering letter explaining the project was sent to all subjects who had been located. During a period of several months a number of follow-up questionnaires and solicitations were sent to individuals who did not respond to previous solicitations. Approximately 400 useable returns were received from the 700 potential subjects. Plans are being made to try to obtain responses from the remaining subjects through personal interview. It is hoped that the interview procedure will increase the return rate and also provide information on any biases that might exist concerning the group which did not respond to the questionnaire.

Data from the 400 completed questionnaires have been coded and key punched in preparation for data analysis. Similar procedures will be used with all returns from the interview procedure. It is expected that all data will be ready for analysis in early 1969. Present plans call for completion of the project in written form by the end of August 1969.

The questionnaire used in the study was designed to elicit a wide variety of information concerning deaf persons and the factors which could possibly influence their occupational success. Information was sought on the hearing loss of the individual and his family; the socioeconomic and educational background of his family; the types of communication which he uses with various individuals and in various situations; his educational background; the type and number of jobs which he has held; how he interacts and communicates with people at work; his social and marital status including his social interaction with deaf and other individuals; what types of further education and training he feels he needs; what subjects and activities at school he felt best prepared him for adult life and what he felt prepared in least. An important aspect of the study will be to analyze the relationship between the occupational success of a deaf adult and his previous educational background.

Project IV. Supervisors and Supervision of Teachers of the Deaf

Purpose

The primary goal of this study was to stimulate discussion and action concerning supervision and supervisors in programs for the deaf. In the belief that discussion and action must proceed on a foundation of facts, the project attempted to provide at least a portion of that foundation in the form of information on supervision and supervisors. More specifically, the objectives of the study were:

1. To locate supervisors of programs for the deaf (with 4 or more teachers) in the United States;

2. To describe the roles of those supervisors and the nature of their positions and supervisory activities;

3. To describe the professional characteristics and backgrounds of the supervisors; and

4. To obtain the ideas of current supervisors on possible graduate programs for supervisors.

Although the initial focus of the study was on <u>supervisors</u> and questionnaire items were designed to elicit information on these individuals, it became apparent that much of the data received also provided information on <u>supervision</u> in programs for the deaf. Thus, an additional objective became:

5. To describe, as completely as possible from the available data, the current extent and nature of supervision in programs for the deaf.

Procedures and Background Information

In order to locate supervisors, letters were sent to administrators of all programs with four or more teachers of the deaf requesting the names and addresses of personnel who fitted the job description "supervisor of teachers of the deaf" (as defined in the next chapter). Of the 205 (127 Day, 78 Residential) administrators contacted, 191 (93%) replied to the letter.

Ten-page self-administered questionnaires were mailed to the 398 (D 170, R 228) individuals named by administrators. Of the 332 (83%) responses received, 258 were usable questionnaires. These represented 64% of the Day supervisors and 66% of the Residential supervisors contacted, for a total usable response rate of 65%. The data were coded and submitted to computer analysis for frequency distributions.

Of the 258 respondents represented in the study, 108 (42%) were Day supervisors and 150 (58%) were Residential. In order to further

differentiate "types" of supervisors, respondents were subdivided into three categories: S (Supervisors-only; persons whose primary responsibility was supervision of teachers of the deaf and, in some cases, other types of teachers); SA (Supervisor-administrators; persons who supervised and also held administrative positions); and S (A) T (Supervisor-teachers; persons who supervised and also taught deaf children, either full or part time; some also held administrative positions). The sample consisted of 137 SA's (D 60, R 77), 73 S's (D 25, R 48), and 48 S (A) T's (D 23, R 25).

Analysis of the data revealed that there exists a number of major needs related to supervision in education of the deaf. Among these are the following.

1. The need for increased supervision in programs for the deaf. In terms of a rather liberal criterion based upon amounts of time devoted to supervision within a system, available data indicate that at least 25% of the programs (with 4 or more teachers) in the United States are currently inadequately supervised. The actual proportion is probably higher, since insufficient data precluded evaluation of half of the existing programs. Adding to this the possible proportion of inadequately-supervised programs with 3 or fewer teachers, one might conceivably discover that the majority of programs for the deaf fall below acceptable levels of supervision. This is conjecture, but it seems a distinct possibility.

A key concept here is "amount of supervision" in terms of time devoted to supervision activities within a system. Since supervisory persons often have other types of responsibilities (e.g., administration, teaching), it is not sufficient to evaluate supervision adequacy on the basis of simple numerical supervisor-teacher ratios. Rather, evaluation and planning for supervision within a program should take into account a) for each supervisor, the proportion and amount of his time devoted specifically to supervision activities and b) the amount of time per teacher which the supervisor devotes to classroom visits and teacher conferences.

There are a number of problems related to this need for increased supervision. One concerns the difficulty of providing sufficient numbers of qualified supervisors for programs, a difficulty heightened by the continuing short supply of "more basic" personnel -- teachers of the deaf. A second problem may occur in convincing administrators of the need in their programs for adequate amounts of "true supervision" by qualified supervisors. This should not be too critical in Residential and large Day programs, most of which are already attuned to the need for supervision (although data indicate that some of these programs are inadequately supervised). However, a unique situation occurs in small Day programs, for the school systems to which they belong may be hard put to justify the hiring of special supervisors for the deaf, even though the multi-area supervisors which many systems presently employ seldom have appropriate backgrounds in the area of the deaf.

2. The need to improve the quality of supervision in programs for the deaf. Increased "amounts" of supervision are of little value unless supervision is done by experienced, qualified persons with special skills in this area. From the data it is obvious that, in addition to the programs with deficient amounts of supervision, there are many "well-staffed"

programs whose supervisors lack adequate backgrounds in education of the deaf. One might carry this even farther and question the quality of supervision in many programs which are both well-staffed and have supervisors with experience in education of the deaf. In the past, most supervisors have tended to be teachers of the deaf who were promoted to supervisory status on the basis of such things as a) instructional expertise, b) amount and type of experience, c) personal characteristics and abilities, d) additional knowledge and skills, and e) length of service within a system. Most would agree that factors a) through d) are important considerations in the selection of supervisors. However, if one accepts the proposition that in order to assist teachers and perform other supervisory tasks it is essential for the supervisor to have special knowledge and skills in a number of areas (e.g., work with the multiply-handicapped; curriculum theory and development; guidance and counseling; techniques of supervision; etc.), then it would appear that the very important factor d) has been given too little consideration in the past. Acceptance of this as one of the criteria for "quality supervision" may call for special programs of preparation for supervisors and re-assessment of the qualifications of present supervisors.

3. The need for setting professional standards for supervisors of teachers of the deaf. Preceding sections called attention to the need for "qualified" supervisors. However, while much work has been done in establishing standards and certification qualifications for teachers of the deaf, very little has been done in these areas for supervisory personnel. If supervisors are to achieve a professional identity of their own (distinct from those of teachers and administrators, even though supervisors may also be engaged in these roles) and if programs are to be encouraged to hire "qualified" supervisors, then a) the profession must set standards for supervisors in terms of types and amounts of professional experience and academic work and practicum; b) means must be found for helping present and future supervisors to achieve these standards; c) recognition should be given to attainment of these standards through certification or some other procedure; and d) ways should be found to encourage state and local agencies to recognize these standards in employing supervisory personnel.

4. The need for discussion and resolution of problems and issues in supervision by professional persons in education of the deaf. Nationwide attention within the profession should be drawn to supervision needs and problems. And increased colloguy should be undertaken on issues such as those mentioned above.

There are undoubtedly other needs and issues in the area of supervision. However, on the basis of those just cited and on the basis of the results of this study and general knowledge of the field, the following recommendations are made.

In order to provide a supply of qualified supervisors for the field, (1) it is recommended that programs be established to prepare supervisors of teachers of the deaf. Furthermore, in order to upgrade quality and maintain high quality of current supervision in programs for the deaf, (2) it is recommended that programs of advanced study be established for present supervisors of teachers of the deaf. Both of these points are

echoed in the recommendations of the 1967 National Conference on Education of the Deaf (Education of the Deaf. The Challenge and the Charge, pp. 95-96).

The actual programs offered in supervisor preparation and advanced study may take a variety of forms in terms of levels (Master's or post-master's) and extent of time involved. Thus, preparation programs may best be geared to an academic year, particularly if the program is to include observation and some form of practicum or internship in ongoing supervision programs. Advanced study programs may also take this form or may be offered as special institutes, regular summer session programs, or in-service programs.

Program content should build upon each individual's previous experience and academic background. In order to provide the additional breadth and depth of background needed by supervisors, (3) it is recommended that preparation and advanced study programs be undertaken primarily by institutions which have post-teacher preparation programs in education of the deaf and which also have programs in other areas of special education (particularly learning disabilities and language disorders), in supervision, and in related areas (e.g., curriculum theory and development, guidance and counseling, child development, speech and hearing).

4. Within the field, nation-wide attention should be focused on supervision of teachers of the deaf. Study and discussion of supervision needs, problems, and issues leading to specific recommendations and courses of action should take place at national, regional, state, and local levels. (a) A national conference on supervision should be called within the near future. Participants should include representative persons from: the United States Bureau of Handicapped Children; state agencies concerned with special education; national organizations concerned with education of the deaf; teacher education programs and advanced study programs in education of the deaf; administrators of various types and sizes of programs for the deaf; supervisors currently engaged in programs for the deaf; and university programs in supervision of regular (non-deaf) education; (b) national organizations concerned with education of the deaf should call attention to supervision needs through their publications and meetings; (c) state and regional agencies should assess supervision needs within their areas and draw up plans for filling these needs; d) individual programs for the deaf should evaluate the adequacy of their supervision programs and, if necessary, plan for the upgrading of these programs. In conjunction with this, small Day programs should strive to find means for providing adequate supervision by qualified personnel. The unique problems of these programs may call for exploration of various patterns of administration and supervision (e.g., consolidation of small programs into regional programs; the sharing of a supervisor by a number of individual systems through cooperative arrangements; provisions for supervision by state consultants or coordinators of education of the deaf; released time for a specially trained teacher of the deaf to serve in a supervisory capacity).

There are currently many educational systems for the deaf with adequate, perhaps even optimal, programs of supervision which are being conducted by persons well-qualified for this responsibility. The problems and recommendations above are based upon indications from study data that many more systems have inadequate provisions for supervision. It is hoped that the findings and implications of this study will stimulate increased effort toward the improvement and maintenance of quality in this key aspect of educational programs for deaf children.

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1. Quigley, Stephen P. The Influence of Fingerspelling on the Development of Language, Communication, and Educational Achievement in Deaf Children. Pp. 149, 1968.

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2. Quigley, Stephen P., Jenne, William C., and Phillips, Sondra B. Deaf Students in Colleges and Universities. Pp. 196, 1968.

   This publication is available from the Alexander Graham Bell Association for the Deaf, Incorporated in Washington, D. C. and contains detailed information on the project involving deaf students in colleges and universities.

3. Schmitt, Philip J., Quigley, Stephen P., and Quadagno, Jill. Supervisors and Supervision of Teachers of the Deaf. Pp. 188, 1968.

   This publication is available in limited quantity from the Alexander Graham Bell Association for the Deaf, Incorporated in Washington, D. C. and from the Rehabilitation Services Administration. It contains detailed information concerning the project on supervisors and supervision of teachers of the deaf.